ABSTRACT

METHOD FOR PREPARING AN ELECTROPLATING BATH AND RELATED COPPER PLATING PROCESS

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The present invention is related to a method for the preparation of a composition for electroplating a copper-containing layer on a substrate. This method makes use of an aqueous solution that has at least: a source of copper Cu (II) ions, an additive to adjust the pH to a predetermined value, and a complexing agent for complexing Cu (II) ions.

10 The complexing agent has the chemical formula:

COOR1-COHR2R3

in which R₁ is an organic group covalently bound to the carboxylate group (COO), R₂ is either hydrogen or an organic group, and R₃ is either hydrogen or an organic group. The solution has no reducing agent. The method involves providing electrons from a source not in direct contact with the solution, through transport means that provides the contact between said source and said solution. The present invention is also related to a process for forming a copper-containing layer on a substrate in an electroplating bath prepared according to the foregoing method.

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